



# Oregon

Kate Brown, Governor

**State Board of Examiners for  
Engineering & Land Surveying**

670 Hawthorne Ave. SE, Suite 220

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January 12, 2017

MATS JARLSTROM  
13520 SW HART RD.  
BEAVERTON, OR 97008

RE: File No. 2929 MATS JARLSTROM

Dear MATS JARLSTROM:

The Oregon State Board of Examiners for Engineering and Land Surveying (OSBEELS) has completed an investigation into your use of the title "engineer" without registration with the OSBEELS, a violation of Oregon Revised Statute (ORS) 672.020, 672.045, and Oregon Administrative Rule (OAR) 820-010-0730.

After reviewing the information received, the Law Enforcement Committee determined that the allegations warranted a civil penalty of \$500. Your payment was received in full on November 22, 2016, and the Board considers this matter settled. At the January 10, 2017 meeting, the Board voted to approve the enclosed Final Order. This matter is now resolved.

If you have questions, please contact our office.

Sincerely,

Jenn Gilbert  
Deputy Administrator

Enclosure: Final Order



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### BEFORE THE OREGON STATE BOARD OF EXAMINERS FOR ENGINEERING AND LAND SURVEYING

In the Matter of:

Case No. 2929

MATS JARLSTROM

**FINAL ORDER BY DEFAULT**

On or about November 1, 2016, the Oregon State Board of Examiners for Engineering and Land Surveying (Board) properly served a Notice of Intent to Assess a Civil Penalty (Notice) on Mats Jarlstrom (Jarlstrom). Jarlstrom did not request a hearing, and paid his full civil penalty amount of \$500.00. The Notice designated the Board file on this matter as the record for purposes of establishing a *prima facie* case upon default. Therefore, upon consideration of the facts and law, the Board enters the following Order:

### FINDINGS OF FACT AND CONCLUSIONS OF LAW

1.

Jarlstrom is not now, and never has been, registered to practice engineering in Oregon, or any other state in the United States. Jarlstrom has claimed to be a Swedish engineer. However, engineering is not a regulated profession in Sweden. No licensure, registration, or certification is offered or required to practice engineering in Sweden.<sup>1</sup> Jarlstrom runs an audio product design and testing business that is not registered with the Oregon Secretary of State's office.

<sup>1</sup> See, e.g., Swedish Council for Higher Education, Recognition of Foreign Qualifications, P.O. Box 45093, SE-104 30 Stockholm, Sweden, Tel. +46-10-470-03-00

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2.

On September 3, 2014, Jarlstrom emailed the Board alleging that the City of Beaverton engineers were misapplying well-known traffic engineering formulas and asked the Board to investigate the City of Beaverton. In his email to the Board, Jarlstrom indicated that he was performing engineering work. The Board has no jurisdiction over the timing of traffic lights in the City of Beaverton. Jarlstrom was informed of this lack of jurisdiction. Jarlstrom was also cautioned by the Board against practicing engineering without being registered and was provided with copies of ORS 672.005(1) and ORS 672.007(1), which define the practice of engineering as including both engineering work and use of the engineering title. Jarlstrom agreed to comply with the law.

3.

On January 13, 2015, Jarlstrom sent an email to Lehmon Dekle with the National Council of Examiners for Engineering and Surveying, Dr. Alexi Marududin (the creator of a well known traffic signal formula), 60 Minutes, and the Board, explaining how he had, “solved the slowing down *within critical stopping distance* dilemma” of the yellow change interval timing formula and attached a document with his calculations and a traffic change interval timing formula including algorithms he created, and which he promoted as a replacement for the traffic change formula commonly used. He asserted that his new formula “will have worldwide impact” and resolve the current misapplication of the original change interval timing formula.

4.

On January 15, 2015, Jarlstrom sent an email to the Board stating, “And yes, I’m an excellent **engineer**” contradicting his earlier statement of being willing to comply with the law. Included with the January 15 email to the Board was an email Jarlstrom wrote to KOIN 6 in

1 which he introduced himself as a Swedish engineer, and presented traffic change interval timing  
2 calculations.

3 5.

4 On March 6, 2015, Jarlstrom emailed Washington County Sheriff, Patrick Garrett,  
5 stating, "I have actually invented and publicly released a new extended solution to the original  
6 problem with the amber signal light in traffic flow."

7 6.

8 On March 26, 2015, the Board opened a law enforcement case against Jarlstrom for the  
9 unlicensed practice of engineering.

10 7.

11 On April 13, 2015, Jarlstrom wrote to the Board claiming to be exempt from Oregon  
12 registration requirements per ORS 672.060(3)(a), because he does not make final engineering  
13 decisions, and per ORS 672.060(6)(b), because he does not offer engineering services directly to  
14 the public. He further wrote, "You should understand why I am exempt from needing to be a  
15 licensed Professional Engineer, PE in the State of Oregon and why I can call myself an  
16 'Engineer.'" Jarlstrom attached a paper he wrote to the email, in which he opined that the  
17 Institute of Transportation Engineers made an error in the calculation on which its change  
18 interval formula is based.

19 8.

20 ORS 672.005 provides, in pertinent part:

21 (1) "Practice of engineering" or "practice of professional engineering" means  
22 doing any of the following:

23 (a) Performing any professional service or creative work requiring  
engineering education, training and experience.



(b) Applying special knowledge of the mathematical, physical and engineering sciences to such professional services or creative work as consultation, investigation, testimony, evaluation, planning, design and services during construction, manufacture or fabrication for the purpose of ensuring compliance with specifications and design, in connection with any public or private utilities, structures, buildings, machines, equipment, processes, works or projects \* \* \* \*.

9.

ORS 672.007 provides, in pertinent part:

(1) A person is practicing or offering to practice engineering if the person:  
 (a) By verbal claim, sign, advertisement, letterhead, card or in any other way implies that the person is or purports to be a registered professional engineer;  
 (b) Through the use of some other title implies that the person is an engineer or a registered professional engineer; or  
 (c) Purports to be able to perform, or who does perform, any service or work that is defined by ORS 672.005 as the practice of engineering \* \* \* \*.

10.

Pursuant to OAR 820-040-0030 traffic engineering, specifically, is, in pertinent part:

(1) \* \* \* that branch of engineering which applies technology, science, and human factors to the planning, design, operations, and management of roads, streets, bikeways, highways, their networks, terminals, and abutting lands. Its objective is to provide for the safe, rapid comfortable, economical, convenient, and environmentally compatible movement of people, goods and services. Traffic engineering embraces studies and activities in connection with roads, streets, and highway traffic controls, which include signs, signals, lighting, pavement markings, and the following:

(a) The planning, use, and design of traffic control devices and systems;  
 (b) The use of algorithms for the operation of traffic control systems;  
 (c) The operational adjustment of traffic control devices and systems;  
 (d) The preparation of traffic engineering reports; \* \* \*

(2) Functional Areas: Four areas have been identified as functional classifications within traffic engineering. Each of the functional areas is further described as follows:

(a) "Traffic operations" is the science of analysis, review, and application of traffic data systems, including accident and surveillance records, and volume and other data gathering techniques necessary for traffic planning. It includes the knowledge of operational characteristics of persons and vehicles to determine the need for installation of traffic control devices, and the treatment

of the functional characteristics of the controls such as traffic signal timing. It includes the assessment of vehicular and human factors, their relationship with other traffic characteristics, the determination of safe transportation systems, and the need for inherently safe features and controls;“  
 (b) "Traffic design" consists of the design of traffic control devices and operational design. Traffic control device design includes those activities necessary to determine the appropriate and proper application of signs, pavement markings, signals, and signal systems, as well as to determine their location, and, if necessary, construction methods. It includes the preparation of plans, specifications, and estimates for the installation or modification of the various devices. Operational design concerns the visible features of a roadway. It may be thought of as the tailoring of the highway to the terrain, to the urban landscape, and to the requirements of the roadway user. It deals with such roadway elements as cross section, curvature, sight distance, channelization, and clearances, and thus depends directly on traffic flow characteristics; \* \* \*

11.

ORS 672.045 provides, in pertinent part:

**672.045 Prohibited activities relating to practices of engineering, land surveying or photogrammetric mapping.** A person may not:

(1) Engage in the practice of engineering, land surveying or photogrammetric mapping without having a valid certificate or permit to so practice issued in accordance with ORS 672.002 to 672.325.

(2) Falsely represent, by any means, that the person is authorized to practice engineering, land surveying or photogrammetric mapping \* \* \* \*.

And

ORS 672.020 provides, in pertinent part, “(1) In order to safeguard life, health and property, no person shall practice or offer to practice engineering in this state unless the person is registered and has a valid certificate to practice engineering issued under ORS 672.002 to 672.325.”

12.

OAR 820-010-0730 provides, in pertinent part:

(1) A person who is not registered in Oregon as a professional engineer, but holds a substantially equivalent unexpired certificate of registration in another state, territory or possession of the United States, the District of Columbia, or

a foreign country, may use the title, “engineer,” “professional engineer,” “registered professional engineer,” or any of its derivations provided that the jurisdiction(s) in which they are registered is written/printed after the title so as not to mislead the public regarding their credentials.

(2) Other than as described in subsection (1) of this rule, no persons may hold themselves out as an engineer in Oregon by use of the title “professional engineer,” “registered professional engineer,” or any of their abbreviations or derivatives;

(3) Unless registered as a professional engineer in Oregon, no persons may;  
 (a) Hold themselves out as an “engineer” other than as described in subsection (1) of this rule or in ORS 672.060;  
 (b) Offer to practice engineering; or  
 (c) Engage in the practice of engineering \* \* \* \*.

### 13.

By indicating to the Board that he was performing engineering work, Jarlstrom purported to be able to perform engineering services or work and represented that he was authorized to perform engineering work. By purporting to be able to perform engineering services or work, Jarlstrom engaged in the practice of engineering under ORS 672.007(1)(c). By engaging in the practice of engineering and representing that he was authorized to perform engineering work, without registration, Jarlstrom violated ORS 672.020(1), 672.045(1) and (2), and OAR 820-010-0730(3)(c).

### 14.

By reviewing, critiquing, and altering an engineered ITE formula, and submitting the critique and calculations for his modified version of the ITE formula to members of the public for consideration and modification of Beaverton, Oregon’s and “worldwide” traffic signals, which signals are public equipment, processes and works, Jarlstrom applied special knowledge of the mathematical, physical and engineering sciences to such creative work as investigation, evaluation, and design in connection with public equipment, processes, and works. Jarlstrom

1 thereby engaged in the practice of engineering under ORS 672.005(1)(b). By doing so through  
2 the use of algorithms for the operation of traffic control systems, and through the use of the  
3 science of analysis, review, and application of traffic data systems to advise members of the  
4 public on the treatment of the functional characteristics of traffic signal timing, Jarlstrom  
5 engaged, specifically, in traffic engineering under OAR 820-040-0030(1)(b) and (2)(a). By  
6 engaging the practice of engineering (specifically, traffic engineering) without registration,  
7 Jarlstrom violated ORS 672.020(1), 672.045(1) and OAR 820-010-0730(3)(c) on a second  
8 occasion.

9 15.

10 By asserting to a public body in correspondence that he is an (“excellent”) engineer, and  
11 asserting to the public media in correspondence that he is a (“Swedish”) engineer, Jarlstrom held  
12 himself out as, and implied that he is, an engineer. He thereby violated ORS 672.020(1) and  
13 672.045(2) on a second occasion and violated OAR 820-010-0730(3)(a). By again providing the  
14 public with his traffic engineering calculations for the modification of Beaverton’s traffic signal  
15 timing, Jarlstrom again engaged in the practice of engineering and, specifically, the practice of  
16 traffic engineering. He thereby violated ORS 672.020(1), 672.045(1) and OAR 820-010-  
17 0730(3)(c) on a third occasion.

18 16.

19 By providing his “publicly released” traffic engineering calculations to the sheriff of the  
20 county where he advised changes in traffic signals, Jarlstrom again purported to be authorized to  
21 engage in, and did engage in, the practice of engineering. He, therefore, violated ORS  
22 672.020(1), 672.045(1) and (2), and OAR 820-010-0730(3)(c) on third and fourth occasions.



1 17.

2 By, once again, purporting to be authorized to practice engineering, including through  
3 use of the “engineer” title, and by providing an engineering analysis and critique of an  
4 engineered traffic signal formula, all to a public a body, Jarlstrom violated ORS 672.020(1),  
5 672.045(1) and (2) and OAR 820-010-0730(3)(c) on fourth and fifth occasions.

6 18.

7 Because Jarlstrom is not a registered (licensed) engineer in any jurisdiction, in the United  
8 States or a foreign country, the notation of his licensing jurisdiction, which would allow him to  
9 lawfully use the title of engineer in Oregon under OAR 820-010-0730 (although it would not  
10 allow him to lawfully engage in engineering work), is not available to him.

11 Respondent asserts two affirmative defenses, both related to claimed exemptions under ORS  
12 672.060. First, Respondent claims he is exempt from professional engineering registration under  
13 ORS 672.060(3) because his work did not include final engineering designs or decisions.  
14 Second, Respondent claims he is exempt from professional engineering registration under ORS  
15 67.060(6) because, he claims, he does not offer his engineering work directly to the public.

16 **ANALYSIS OF RESPONDENT’S AFFIRMATIVE DEFENSES, AND FURTHER**  
17 **CONCLUSIONS OF LAW**

18 19.

19 ORS 672.060(3) exempts a person from registration as a professional engineer if that  
20 person is “working an employee or subordinate of a registered professional engineer” and all  
21 three of the following requirements are also true:

22 (a) The work of the person does not include final engineering designs or  
23 decisions;

1 (b) The work is done under the supervision and control of and is verified by a  
2 registered professional engineer; and

3 (c) The person does not purport to be an engineer or registered professional  
4 engineer by any verbal claim, sign, advertisement, letterhead, card or title.

5 ORS 672.060(3)(a), (b) and (c).

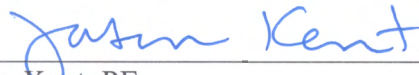
6 Respondent may or may not be including final engineering designs or decisions in the  
7 work he is providing, but that is the only prong of this four-part exemption he potentially satisfies.  
8 He has not performed the traffic engineering work he has done as an employee or subordinate of a  
9 registered professional engineer. His traffic engineering calculations and analysis were not done  
10 under the supervision and control of, nor verified by, a registered professional engineer. He did,  
11 on many occasions, purport to be an engineer. The exemption of ORS 672.060(3) does not,  
12 therefore, apply to Respondent.

13 20.

14 ORS 672.060(6) exempts a person from registration as a professional engineer when  
15 performing engineering work, if that work, "is in connection with or incidental to the operations  
16 of that person" and "[t]he engineering work is not offered directly to the public." ORS  
17 676.060(6)(a) and (b). Respondent runs an audio product design and testing business.  
18 Engineering the change intervals of traffic lights is not connected with or incidental to audio  
19 product design and testing. In spite of his conclusory assertion, Respondent has offered his  
20 engineering work directly to members of the public multiple times, including: the Sheriff of  
21 Washington County, a local television station, Alex Marududin, 60 Minutes, the National  
22 Council of Examiners for Engineering and Surveying, and the Board. Respondent meets neither  
23 prong of ORS 672.060(6), and this exemption does not apply to him.

**FINAL ORDER**

Based on the foregoing and pursuant to ORS 183.745 and ORS 672.325, it is HEREBY ORDERED that a civil penalty is imposed on Mats Jarlstrom in the amount of \$500 for all of the violations of ORS 672.020, 672.045, and OAR 820-010-0730 detailed above. The civil penalty is due and payable 70 days after the date of this order, unless the penalty has already been paid.

  
\_\_\_\_\_  
Jason Kent, PE  
Board President  
Oregon State Board of Examiners for  
Engineering and Land Surveying

1-10-2017  
\_\_\_\_\_  
Date

**APPEAL RIGHTS**

You are entitled to judicial review of this order in accordance with ORS Chapter 183.482. You may request judicial review by filing a petition with the Court of Appeals in Salem, Oregon within 60 days from the date of service of this order.